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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/662,307 | 09/15/2003 | Michael J. Roche | 80107.078US1 | 1799 |

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10/13/2006

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| EXAMINER |
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MERCADO, JULIAN A

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| ART UNIT | PAPER NUMBER |
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1745

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/662,307 | Applicant(s) ROCKE ET AL. | |
| | Examiner Julian Mercado | Art Unit 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>2005-05-04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The Information Disclosure Statement filed on August 11, 2005 has been considered by the examiner with the following exception:

1. The citation of the PCT search report, while considered by the examiner, has been “lined-through” as this document is not considered to be a public-accessible document.

Claim Objections

Claim 1 is objected to because of the following informalities:

1. In claim 1 at line 3, it is suggested to change “secondary secondary” to --secondary--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1-8 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Keskula et al. (U.S. Pat. 6,406,806 B1).

Keskula et al. teaches a fuel cell [22], a secondary power source such as a battery [62], and a controller [100]. See col. 7 line 38 et seq. and col. 10 line 42 et seq. (applies to claims 1 and 8)

With respect to claim 2, as to the controller being adapted to signal a load device to reduce a load, as this limitation does not further limit the claim to a particular structure it has not been given patentable weight towards the claimed apparatus. Notwithstanding, in Keskula et al. the controller provides “a signal to the vehicle controller to reduce load to compensate for a voltage drop condition.” See col. 11 lines 29-31.

Claims 3-5 each recites a similar “adapted to” clause in reciting that the controller is adapted to start the fuel cell, provide power from the secondary source, signal its starting, and charge the secondary power source with the fuel cell; each of the claims are treated in a manner consisted with the interpretation of claim 2. Notwithstanding, the starting sequence of the fuel cell is considered shown in Figure 3 at reference character [100]. The signals are sent to the vehicle controller “requesting reduced load from the vehicle controller” in accordance with a predetermined level of the signal. See col. 11 lines 19 et seq. The battery is specifically disclosed to accept and store electrical energy supplied by the fuel cell. (also applies to claim 8) See col. 8 line 5 et seq.

Regarding claims 6 and 7, the patentees disclose an interface including a power conductor, i.e. battery pack monitor and a signal conductor, electrochemical engine control module. See col. 8 line 50 et seq.

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As to claim 14, Keskula et al. teaches signaling a load device such an electric motor [64] to reduce its load while the fuel cell is starting, in the instance where the measured voltage of the fuel cell is below a predetermined value. See col. 8 line 32 and line 50 et seq. The examiner notes that the limitation “while the fuel cell is starting” has been given its broadest reasonable interpretation insofar as the length of time during which the fuel cell is strictly in a starting period is undefined, e.g. the starting time can be anywhere from the first few seconds to several minutes, if not hours. In order to obviate this interpretation, it is suggested to amend the claims so as to recite a starting period followed by a “normal” operation period, in order to give the former a definite endpoint.

As to claims 15 and 16, while the fuel cell is starting, note that the battery load provides its share of duty to maintain a steady voltage. (ib.)

Claims 14-16, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Colborn et al. (U.S. Pat. 6,787,259 B2)

Regarding claims 14, Colborn et al. teaches starting a fuel cell, indicated by time T2 in Figure 5. While the fuel cell is starting, the controller signals a load device to reduce its load. See col. 7 line 45 et seq.

As to claims 15 and 16, while the fuel cell is starting, note that the battery load provides its share of duty to maintain a steady voltage. (ib.)

It is noted that claims 20 and 21, drawn to an apparatus, appear to be modeled after the method claims discussed herein. As to the apparatus being adapted to hold machine-accessible instructions, for similar reasons asserted above, this limitation does not further limit the claim to

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a particular structure and as such has not been given patentable weight, though it is clear from the patentees disclosure that it is similarly capable of holding machine-accessible instructions, i.e. the functionality of a computer/controller.

Claims 23-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Gore (U.S. Pat. 6,855,443 B2)

Regarding claims 23 and 26-29, Gore teaches an electronic system comprising a removable fuel cell [222] a secondary power source such as a battery (specifically disclosed as not shown) a controller [212] and a load device that includes an antenna [214]. See col. 6 line 39 et seq. It is asserted that the electronic system, being a digital device such as a laptop, includes a computer.

As to the controller to multiplex the fuel cell and secondary power source, Gore specifically discloses that the battery provides “power to the initial transfer of fuel to the electrochemical cell.” (ib.) which is considered effected by the aforementioned controller [212].

With respect to claims 24 and 25, as to the controller being adapted to signal a load device to reduce a load and start the fuel cell and provide power from the secondary power source while the fuel cell is starting, as above these limitations have not been given patentable weight insofar as these limitations do not further limit the claim to a particular structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keskula et al.

(6,406,806 B1)

As to signaling the load device, i.e. electric motor [64] to reduce its load if the secondary power source becomes depleted, Keskula et al. discloses that in circumstances where the system is readjusted to operate at a *lower load*, it may be possible to depend on battery power to propel the vehicle and “limp home.” See col. 11 line 42 et seq. Given this scenario, the skilled artisan would find obvious that if the battery power is depleted, the system would readjust even further and operate at an even lower load, since running out of reserve power would completely preclude operation of the vehicle. The ensuing zero load is the considered to be the epitome of a reduced load.

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keskula et al.

Claims 17, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colborn et al.

The teachings of Keskula et al. and Colborn et al. are discussed above.

Regarding claims 9-13, 17, 18 and 22, absent of unexpected results it is asserted that the claimed type of battery, capacitor, supercapacitor or combinations thereof would be obvious variants to the battery as a secondary power source disclosed by either Keskula et al. or Colborn et al., as they are all art-recognized equivalent electrochemical devices.

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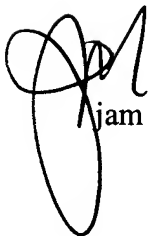
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam



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